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10/788,519	02/27/2004	James Daren Bledsoe	10031155-01	6922
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Kathy Manke Avago Technologies Limited 4380 Ziegler Road Fort Collins, CO 80525			EXAMINER NGUYEN, ALLEN H	
			ART UNIT	PAPER NUMBER
			2625	
			NOTIFICATION DATE	DELIVERY MODE
			01/14/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

avagoip@system.foundationip.com

kathy.manke@avagotech.com

adrienne.barclay@avagotech.com

Office Action Summary

Application No.

10/788,519

Applicant(s)

BLEDSOE ET AL.

Examiner

Allen H. Nguyen

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-31 and 41-46 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 26-31 and 41-46 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicants' arguments see page 6, filed 09/26/2008, with respect to the Final rejection of claims 26-31 and 41-46 have been fully considered and are persuasive. Therefore, the Final rejection has been withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Parry et al. (US 7,043,166).

Regarding claim 26, Parry '166 discloses a multifunctional peripheral device (Printing device 130, fig. 3), comprising:

a memory device (Printing device memory 132, fig. 3) having a memory capacity selected to store a subset of a plurality of firmware code segments (i.e., uploading only certain segments or discrete objects of firmware (102, fig. 1) from the memory module 110 (fig. 1); Col. 6, lines 48-50 and col. 9, lines 40-45), wherein each of the plurality of firmware code segments (i.e., firmware code (103), firmware interface (104), and other

data items on the memory module (110); Col. 3, lines 30-31, fig. 1) is executable to implement a corresponding function in a plurality of functions (i.e., firmware code (103) is a set of computer-readable instructions that enable the processor or controller of a printer or printing device to carry out a particular function; Col. 3, lines 32-50) of the multifunctional peripheral device (multi-function peripherals, col. 1, lines 30-35), and further wherein the memory capacity is selected (i.e., inherently, memory capacity is selected when computer is storing any kind of data, including storing firmware data/code, e.g., if the computer need to store 10 Mb of data, it must select memory space in a memory with 10Mb capacity) to preclude storing the plurality of firmware code segments in their entirety (i.e., the firmware interface (104) can be uploaded to the memory of a printing device to allow the printing device to access and execute the firmware code (103) while the firmware code (103) remains stored on the memory module (110) and is not uploaded to the memory of the host printing device. The firmware interface (104) may also provide the host printing device with details about the different objects of firmware code (103) available on the module (110), such as the size, location, version number, purpose, etc. of each object of firmware code. This information can be used by the host printing device to determine whether or not to upload the objects of firmware code (103) from the memory module (110); Col. 3, lines 55-67 and col. 4, lines 1-2. Because the firmware code 103 remain stored on memory module 110 and only objects of firmware code is uploaded to the printer; the printer is not storing code in their entirety);

a control circuit (Printing device controller / processor (133), fig. 3) configured to

execute a selected firmware code segment from among the subset of firmware code segments stored in the memory device (i.e., a printing device controller or processor (133) controls the operation of the printing device (130) according to firmware stored in the printing device memory (132) and determines whether or not to upload the objects of firmware (103) from the memory module (110); Col. 4, lines 1-2 and col. 5, lines 32-35, figs. 2-3).

Regarding claim 27, Parry '166 discloses the peripheral device (Printing Device 120, fig. 2), further comprising circuitry (a memory module manufacturing facility 631, fig. 6) configured to communicatively couple with a host computer (a customer terminal 610/Purchaser Computer 608, fig. 6) having stored thereon the plurality of firmware code segments (i.e., the purchaser using the customer terminal (610) can select exactly the firmware components (102, FIG. 1); col. 8, lines 21-22) from which the peripheral device obtains the subset of firmware code segments (i.e., the version of firmware, firmware patches, firmware upgrades, etc. can all be selected by the purchaser at the terminal (610); col. 8, lines 22-26, fig. 6).

Regarding claim 28, Parry '166 discloses the peripheral device (Printing Device 120, fig. 2), wherein the subset consists of the selected firmware code segment (i.e., the version of firmware, firmware patches, firmware upgrades, etc. can all be selected by the purchaser at the terminal (610); col. 8, lines 22-26, fig. 6).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parry et al. (US 7,043,166) in view of Nagata et al. (US 5,237,645).

Regarding claim 29, Parry '166 does not explicitly show the peripheral device, wherein the memory device is configured to store a first flag which when set is indicative of a presence of the selected firmware code segment in the memory device.

However, the above-mentioned claimed limitations are well known in the art as evidenced by Nagata '645. In particular, Nagata '645 teaches the peripheral device (Print control unit 8, fig. 2), wherein the memory device (Image memory 30, fig. 2) is configured to store a first flag which when set is indicative of a presence of the selected firmware code segment in the memory device (i.e., if the flag T is not at "0", the block in question is an effective block, then the corresponding image memory block at the address RM(x, y) is referred to (step S4). Then, the effective block of data at the image memory block address RM(x, y) are read out (step S5); Col. 8, lines 15-20, fig. 9).

In view of the above, having the system of Parry and then given the well-established teaching of Nagata, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Parry as taught

by Nagata to include: the peripheral device, wherein the memory device is configured to store a first flag which when set is indicative of a presence of the selected firmware code segment in the memory device, since such a modification would enhance wherein the decision or the judgment is based upon a present setting of a control flag and wherein the control flag can be set by a user.

Regarding claim 30, Nagata '645 shows the peripheral device (Print control unit 8, fig. 2), wherein the first flag (flag T is "0" (step S2), fig. 9) which when reset is indicative of an absence of the selected firmware code segment in the memory device (i.e., if the flag T is at "0", the block in question is an empty block, so the empty data of one block is output (step S3); Col. 8, lines 12-14 and lines 24-26).

Regarding claim 31, Parry '166 discloses the peripheral device (Printing Device 130, fig. 3), wherein the memory device (Printing device memory 132, fig. 3) is further configured to store a version indicator for indicating a version of the selected firmware code segment stored in the memory device (i.e., a replacement action (step 208) may comprise uploading only certain segments or discrete objects of firmware (102, FIG. 1) from the memory module, thereby upgrading or enhancing the existing firmware of the printing device (step 209); Col. 6, lines 48-52, fig. 4).

6. Claims 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parry et al. (US 7,043,166) in view of Sugita (US 2004/0068548).

Regarding claim 41, Parry '166 discloses a computer network (Network 621/Internet 602, fig. 6), comprising:

a multifunctional peripheral device (Printing Device 130, col. 1, lines 25-30, figs. 2-3) containing a volatile memory (i.e., printing device memory (132) may comprise both volatile and non-volatile memory; Col. 5, lines 9-10 and col. 7, lines 49-52, figs. 1, 3) having a memory capacity selected (i.e., inherently, memory capacity is selected when computer is storing any kind of data, including storing firmware data/code, e.g., if the computer need to store 10 Mb of data, it must select memory space in a memory with 10Mb capacity) to store a subset of a plurality of firmware code segments (i.e., a replacement action (step 208) may comprise uploading only **certain segments or portions** of firmware to printing device from the memory module, thereby upgrading or enhancing the existing firmware of the printing device (step 209); Col. 6, lines 48-52 and col. 9, lines 40-45), wherein each of the plurality of firmware code segments (i.e., firmware code (103), firmware interface (104), and other data items on the memory module (110); Col. 3, lines 30-31, fig. 1) is executable to implement a corresponding function in a plurality of functions (i.e., firmware code (103) is a set of computer-readable instructions that enable the processor or controller of a printer or printing device to carry out a particular function; Col. 3, lines 32-50) of the multifunctional peripheral device (multi-function peripherals, col. 1, lines 30-35);

Parry '166 does not explicitly show a host processor comprising a memory in which is stored each of the plurality of firmware code segments, the host processor

communicatively coupled to the multifunctional peripheral device for transferring the subset of firmware code segments to the peripheral device on an as-needed basis.

However, the above-mentioned claimed limitations are well known in the art as evidenced by Sugita '548. In particular, Sugita '548 teaches a host processor (Host Computer 300, fig. 5) comprising a memory (Hard Disk 304, fig. 5) in which is stored each of the plurality of firmware code segments (i.e., a download program and new firmware stored in a predetermined server may be downloaded via a LAN in advance to the hard disk of the host computer 100; Page 5, paragraph [0055], figs. 2, 5), the host processor communicatively coupled to the multifunctional peripheral device (Printer 200, fig. 5) for transferring the subset of firmware code segments to the peripheral device on an as-needed basis (i.e., a host apparatus is connected for mutual communications with an image forming apparatus which comprises a rewritable memory which stores the firmware and the image forming apparatus forms, in accordance with a signal fed from the host apparatus, an image which corresponds to this signal; Page 2, paragraph [0016]).

In view of the above, having the system of Parry and then given the well-established teaching of Sugita, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Parry as taught by Sugita to include: A host processor comprising a memory in which is stored each of the plurality of firmware code segments, the host processor communicatively coupled to the multifunctional peripheral device for transferring the subset of firmware code segments to the peripheral device on an as-needed basis, since Sugita stated on page

1, paragraph [0002] that such a modification would ensure an information processing system in which a host apparatus is connected for mutual communications with an image forming apparatus which comprises a rewritable memory which stores firmware.

Regarding claim 42, Parry '166 discloses the computer network (Network 621/Internet 602, fig. 6), wherein the memory capacity of the volatile memory precludes storing of the plurality of firmware code segments in their entirety (i.e., the firmware interface (104) can be uploaded to the memory of a printing device to allow the printing device to access and execute the firmware code (103) while the firmware code (103) remains stored on the memory module (110) and is not uploaded to the memory of the host printing device. The firmware interface (104) may also provide the host printing device with details about the different objects of firmware code (103) available on the module (110), such as the size, location, version number, purpose, etc. of each object of firmware code. This information can be used by the host printing device to determine whether or not to upload the objects of firmware code (103) from the memory module (110); Col. 3, lines 55-67 and col. 4, lines 1-2).

Regarding claim 43, Parry '166 discloses the computer network (Network 621/Internet 602, fig. 6), wherein the subset consists of a single firmware code segment (i.e., the printing device can upload the firmware components (102), including, firmware code (103), firmware interface (104), and other data items on the memory module (110). The

firmware code (103) may be a single firmware object or may be any number of separate firmware objects for use by a printing device; Col. 3, lines 29-45, fig. 1).

7. Claims 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parry et al. (US 7,043,166) in view of Sugita (US 2004/0068548), and further in view of Nagata et al. (US 5,237,645).

Regarding claim 44, Parry '166 discloses the computer network (Network 621/Internet 602, fig. 6), wherein the memory is configured to store the single firmware code segment in the volatile memory (i.e., a check for an existing firmware components may be performed (step 206); Col. 6, lines 31-32, fig. 4).

The combination of Parry '166 and Sugita '548 does not explicitly show a first flag which when set is indicative of a presence of the data.

However, the above-mentioned claimed limitations are well known in the art as evidenced by Sugita '548. In particular, Sugita '548 teaches a first flag which when set is indicative of a presence of the data (i.e., if the flag T is not at "0", the block in question is an effective block, then the corresponding image memory block at the address RM(x, y) is referred to (step S4). Then, the effective block of data at the image memory block address RM(x, y) are read out (step S5); Col. 8, lines 15-20, fig. 9).

In view of the above, having the system of Parry and Sugita and then given the well-established teaching of Nagata, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Parry and

Sugita as taught by Nagata to include: a first flag which when set is indicative of a presence of the data, since such a modification would enhance wherein the decision or the judgment is based upon a present setting of a control flag and wherein the control flag can be set by a user.

Regarding claim 45, Parry '166 discloses the computer network (Network 621/Internet 602, fig. 6), further comprising a server (Communication Unit 612, fig. 6) coupled to the host processor (Customer Terminal 610, fig. 6) through a communications network (i.e., the communication unit (612) includes a web server that the purchaser accesses through the Internet (602); Col. 8, lines 60-62, fig. 6).

Regarding claim 46, Parry '166 discloses the computer network (Network 621/Internet 602, fig. 6), wherein the host processor (Customer Terminal 610, fig. 6) is configured to obtain firmware updates for the plurality of firmware code segments from the server (i.e., the purchaser, using the customer terminal (610) can select exactly the firmware components (102, FIG. 1) that are desired. For example, the version of firmware, firmware patches, firmware upgrades, etc. can all be selected by the purchaser at the terminal (610); Col. 8, lines 22-26, fig. 6).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hino et al. (US 7,312,882) the type flag is set "ON" when the firmware piece that is started to be rewritten is a program firmware piece

Zimmerman (US 7,268,900) a firmware version (FV) identifier 254 for specifying the version of the non-resident PF 252, and a firmware loaded flag

Mae et al. (US 7,213,052) a firmware reception notification is issued from printer controller 21 and the firmware rewrite process permit flag is turned on

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen H. Nguyen whose telephone number is (571)270-1229. The examiner can normally be reached on 9:00 AM-6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KING Y. POON can be reached on (571) 272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/King Y. Poon/
Supervisory Patent Examiner, Art Unit 2625

/Allen H. Nguyen/
Examiner, Art Unit 2625